ETd increased by 21% ($p \leq 0.01$), NYHA functional class by 0.7 (I–IV; $p < 0.01$).

Conclusion: DDD-pacing with short AV-delay decreases the outflow tract gradient, relieves symptoms and improves QoL in patients with hypertrophic obstructive cardiomyopathy. Therefore, pacing should be considered as an alternative to myectomy in such patients.

2:15

796-2 Long-Term Effects of DDD Pacing on Hypertrophy and LV Systolic Function in Hypertrophic Obstructive Cardiomyopathy

D. Pavin, C. de Place, H. le Breton, C. Leclercq, D. Gras, P. Mabo, J.C. Daubert. *Department of Cardiology, University Hospital, Rennes, France*

DDD pacing reduces left ventricular outflow tract (LVOT) gradient and improves functional status in patients with hypertrophic obstructive cardiomyopathy (HOCM). Little is known about long-term LV changes induced by this therapy. This study was undertaken to assess the long-term (≥3 months) effect of DDD pacing on LV function, cavity size and wall thickness with serial echo-Doppler analysis.

20 patients (pts) with HOCM (LVOT gradient ≥30 mmHg) were implanted with DDD pacemakers (PM) and followed for up to 62 months (21 ± 18 months). At the end of follow-up (FU), all pts reported symptomatic improvement. LVOT gradient decreased from 96 ± 36 mmHg to 30 ± 33 mmHg ($p < 0.0001$). In 16 pts, LVOT gradient decrease was progressive over time. There was a slight but significant decrease in some LV hypertrophy indexes. LV hyperkinesia was significantly reduced. LV end-diastolic volume was unchanged.

	Before implant	End-FU	
Anterior septum (mm)	18.7 ± 4.5	17.6 ± 4.4	$p < 0.05$
Posterior septum (mm)	18.5 ± 4.4	17.5 ± 4.9	ns
Anterior free wall (mm)	14.9 ± 4	13.5 ± 3.9	$p < 0.05$
Posterior free wall (mm)	11 ± 2.9	11 ± 1.9	ns
End diastolic volume (ml)	120 ± 38	117 ± 29	ns
End systolic volume (ml)	40 ± 17	47 ± 16	$p < 0.05$
Ejection fraction (%)	67 ± 7	60 ± 7	$p < 0.05$

These data are consistent with a remodeling effect of chronic DDD pacing. Changes in hypertrophy and LV systolic function may account for a progressive and sustained effect on LVOT gradient.

2:30

796-3 Thallium 201 Myocardial Perfusion in Patients With Hypertrophic Cardiomyopathy And DDD Pacing

A. Le Helloco, D. Gras, A. Devillers, D. Pavin, J.-C. Daubert, P. Bourguet, C. Almange. *Cardiology Department, University Hospital, Rennes, France*

DDD pacing can be used in patients with severe hypertrophic cardiomyopathy (HCM). The aim of this prospective study was to evaluate the influence of DDD pacing on Thallium 201 perfusion abnormalities. 35 patients (pts) with mean age 52.1 ± 13.6 and HCM diagnosed by echocardiography were divided in 2 groups: group 1 included 21 pts with DDD pacing and group 2 14 pts without DDD pacing. All pts underwent dipyridamole Thallium 201 tomography with redistribution before and after DDD pacing (mean delay = 18 months ± 6) and coronary angiography. Septal thickness (ST), left ventricular end diastolic volumes (LVED) were studied in 2 groups. Thallium images were divided in 16 segments and the severity of reduction in Thallium uptake was scored using a four point grading system in each patient (1 = normal uptake to 4: severe reduction).

Results:

	Group 1	Group 2	
Age	48.1 ± 16.4	54.9 ± 12.1	NS
S.T. (mm)	23 ± 3.5	16.7 ± 2.6	$p < 0.005$
Thallium 201 defects	12pts	2pts	$p < 0.025$
LVED (ml/m^2)	63.9 ± 4.4	80.1 ± 12.8	$p < 0.005$

During follow-up, Thallium total score decreases (19.4 ± 5.6 before pacing vs 18.2 ± 4.9 pacing, $p < 0.05$). A good correlation was found between Thallium 201 myocardial perfusion and improvement of dyspnea and angina in group 1.

Conclusion: Thallium 201 perfusion abnormalities could diminish in some patients with severe MCH treated by DDD pacing.

2:45

796-4 Catheter Treatment of Hypertrophic Obstructive Cardiomyopathy: Acute and Mid-term Results

H. Seggewiss, U. Gleichmann, L. Faber, D. Fassbender, H.K. Schmidt, S. Strick. *Dept. of Cardiology, Heart Center NRW, Bad Oeynhausen, Germany*

In HOCM negative inotropic drugs, DDD-pacing, and surgical myectomy reduce left ventricular outflow tract (LVOT) gradient. Catheter treatment of HOCM by chemical non-surgical myocardial ablation was described as a new therapeutic option.

24 symptomatic pts. (12 women; mean age 55.4 years; 3 pts. with prior surgical myectomy; 2 pts. with DDD-pacing; 11 pts. with prior syncope; NYHA class 2.8 ± 0.6). were treated. 1.3 ± 0.6 (1–3) septal branches were occluded by injection of 4.2 ± 2.6 ml 96% alcohol in order to ablate the septal bulge, thus reducing LVOT gradient. Prior to permanent occlusion reduction of LVOT gradients were estimated after 5 min. balloon dilatation of the target vessel.

LVOT gradients were reduced from 60.1 ± 32.7 (38–149) mmHg to 20.0 ± 21.7 (0–74) mmHg at rest ($p < 0.0001$) and from 141.4 ± 45.1 (76–240) mmHg to 45.1 ± 31.1 (8–99) mmHg post ES ($p < 0.0001$). 12 (50%) pts. had complete AV-Block 10 min. up to 5 days, requiring temporary (n = 8) or permanent (DDD-; n = 4) pacing. A 86 year old woman died from ventricular fibrillation 8 days after the procedure. After 3 months 15 controlled pts. had ongoing clinical improvement. Hemodynamic control showed ongoing reduction of LVOT gradients at rest (21.9 ± 19.4 mmHg) and post ES (43.3 ± 28.9 mmHg).

Conclusion: Catheter treatment of HOCM seems to be a promising technique for non-surgical myocardial reduction in HOCM, thus reducing LVOT gradients. Mid-term follow-up showed ongoing clinical and hemodynamic improvement. Long-term follow is necessary to estimate the definitive significance of this new therapy.

3:00

796-5 Left ventricular diastolic function in HOCM after successful non-surgical septal reduction

M.Y. Henein, A.S. Kurbaan, C. Knight, U. Sigwart, D.G. Gibson. *Royal Brompton Hospital, London, UK*

Diastolic left ventricular function has proved important in predicting long-term follow-up in different cardiac diseases. Non-surgical septal reduction has also proved successful in reducing the ventricular outflow tract gradient and improves symptoms. In order to assess its possible effects on diastole, we studied 12 patients, age 51 ± 18 years 6 female, with M-mode and 2 D echo-Doppler technique and compared them with 21 normal subjects of similar age. *Before-procedure:* LV dimensions reduced 4.2 ± 0.9 vs 4.9 ± 0.5 cm (vs normal) at end-diastole and 2.4 ± 0.7 vs 3.3 ± 0.5 cm at end-systole as was peak thinning rate 8.2 ± 2.6 vs 11 ± 2.7 cm/s but fractional shortening was increased 43 ± 8% vs 30 ± 10%, $p < 0.001$ each. Interventricular septum was thickened 2.6 ± 0.8 vs 1.0 ± 0.1 cm as was the posterior wall 1.5 ± 0.5 vs 1.0 ± 0.1 cm, $p < 0.001$ each. Transmitral A wave velocity was high 76 ± 29 vs 50 ± 10 cm/s and E/A ratio low 1.1 ± 1.3 vs 1.4 ± 0.4, $p < 0.01$ each. *Post procedure:* LV outflow tract gradient fell from 67 ± 42 to 11 ± 8 mmHg, $p < 0.001$, symptoms improved but ventricular filling flow velocities and peak thinning rate did not change.

Conclusion: Successful non-surgical septal ablation reduces LV outflow tract gradient and improves symptoms. Although it ablates part of the proximal septum, it does not alter the overall diastolic ventricular function.

3:15

796-6 Does Myocardial Catecholamine Concentration Reflect Ventricular Function in Heart Muscle Disease?

Petar M. Seferović, Stepan Stepanović, Ružica Maksimović, Miodrag Ostojić, Dragana Seferović, Slavko Simeunović, Arsen Ristić. *Institute of Cardiovascular Diseases, Medical Center of Serbia, Belgrade, Yugoslavia*

The relationship of myocardial catecholamines and the severity of LV dysfunction in biopsy proven myocarditis (BPM), idiopathic dilated (DCM) and hypertrophic cardiomyopathy (HCM) is still controversial. To investigate this issue we correlated myocardial catecholamine concentrations (MCC) and LV hemodynamic parameters, for each group of the pts. In addition, we analyzed diagnostic utility of MCC measurements in revealing the inherent group differences between BPM, DCM, and HCM pts.

Our study included 86 pts, 20 of them with BPM (80% males, aged 18–42 yrs), 32 pts with DCM (75% males, aged 21–56 yrs), and 34 HCM (64% males, aged 29–54 yrs). At the initial assessment all pts underwent